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10/050,834	01/15/2002	Kelly Molenaar	MAC - 203	1333

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10/15/2003

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EXAMINER

GARCIA, ERNESTO

ART UNIT	PAPER NUMBER
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3679

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,834

Applicant(s)

MOLENAAR, KELLY

Examiner

Ernesto Garcia

Art Unit

3679

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 2,3 and 5-7 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

The text of the withdrawn claims of the recent amendment should have been included. In future responses, applicant should include the text of the withdrawn claims.

Election/Restrictions

Claims 2, 3 and 5-7 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention and species, there being no allowable generic or linking claim. Election was affirmed in Paper No. 7.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: "means for attaching the housing to a support arm of a suspension arm" (claim 1, line 18); and, "the means for attaching the housing to the support arm of the suspension system is external threads on the external surface of the middle portion of the housing" (claim 4, lines 1-3). Applicant is reminded that the exact words are not in the specification and cannot be found.

Claim Objections

Claim 1 is objected to because of the following informalities:

regarding claim 1, the limitation --of the housing-- should be included after "the lower end" in line 14 to distinguish between the lower end of the elongated shaft and the housing. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizusawa et al., 4,568,216 (see marked-up attachment provided on last office action) in view of Edwards, 2,559,857.

Regarding claim 1, Mizusawa et al. disclose in Figure 6 a ball joint comprising an elongated shaft **1**, a ball **2**, a retaining member **20**, a housing **6**, and a fastening means **29a** for fastening the retaining member **20** in the housing **6**. The shaft **1** has an upper

end **A2**, a lower end **A3**, and a longitudinal axis **x** running through the upper end **A2** and the lower end **A3**. The shaft **1** is threaded on the lower end **A3**. The ball **2** is rigidly fixed and surmounted on the upper end **A2** of the shaft **1**. The ball **2**, at a highest point opposite the upper end **A2** of the shaft **1**, having a truncated flat face **A6**. The member **20** is externally threaded (col. 5, lines 61-64) on the lower end **A9** of the member **20**. The housing **6** has an outside surface **A13**, a middle portion **A14**, and a lower end **A15**. The housing **6** is internally conformed at the lower end **A15** of the housing **6**. The middle portion **A14** of the housing **6** is internally threaded (col. 5, line 51-54). The middle portion **A14** has a means **A16** for attaching the housing **6** to a support arm of a suspension system. However, Mizusawa et al. fail to disclose the member **20** having a lubricating port.

Edwards teaches in Figure 1 a member **32** having a lubricating port (the hole where nipple **34** is mounted on) located in an upper surface **A8** thereof; and the lubricating port is openly connected to a duct **34** providing a passageway to lubricate the ball joint. Therefore, as taught by Edwards, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a lubricating port to lubricate the ball joint.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable Mizusawa et al., 4,568,216 (see marked-up attachment provided on last office action) in view of

Edwards, 2,559,857, as applied to claim 1 above, and further in view of McEowen, 4,134,701.

Regarding claim 8, the combination of Mizusawa and Edwards fails to disclose shallow channels in the lower end **92** of the housing **91**. McEowen teaches in Figures 1, 3, 7 a lower end **16** of a housing **10** comprises shallow channels **46** for acting as grease reservoirs which accept grease (col. 1, lines 57-61 and col. 3, lines 41-43). Therefore, as taught by McEowen, it would have been obvious to one of ordinary skill in the art at the time the invention was made to comprise the lower end of the housing of Mizusawa with shallow channels for acting as grease reservoirs, which accept grease.

Claims 1 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scheublein, Jr. et al., 2,954,993 (see marked-up attachment provided on last office action) in view of Scheublein, Jr. et al., 3,103,377, and Maughan, 5,564,853.

Regarding claim 1, Scheublein, Jr. et al., '933 disclose in Figure 9 a ball joint comprising an elongated shaft 94, a ball 100, a retaining member 104, and a housing 91. The shaft 94 has an upper end A2, a lower end A3, and a longitudinal axis x running through the upper end A2 and the lower end A3. The shaft 94 is threaded on the lower end A3. The ball 100 is rigidly fixed and surmounted on the upper end A2 of the shaft 94. The member 104 is externally threaded (col. 5, lines 59-61) on the lower end A9 of the member 104. The housing 91 has an outside surface A13, a middle

portion A14, and a lower end 92. The housing 91 is internally conformed at the lower end 92 of the housing 91. A portion of the housing 91 is internally threaded (col. 5, lines 59-61). The middle portion A14 has a means 95 for attaching the housing 91 to a support arm of a suspension system. The member 104 has lubricating port 106 located in the upper surface A8 thereof. The lubricating port is openly connected to a duct 107 providing a passageway. Applicant is reminded that the lower end 92 of the housing 91, being internally conformed, is for seating the ball.

However, Scheublein Jr. et al. fail to disclose the portion of the housing, internally threaded, being the middle portion as applicant argued that the portion of the housing that is internally threaded is the top portion in Scheublein Jr. et al. '933; a fastening means for fastening the retaining member 104 in the housing 91; and the ball 100, at a highest point opposite the upper end A2 of the shaft 94, having a truncated flat face.

Scheublein, Jr. et al. '933 teach in Figure 4 that a ball, at a highest point opposite an upper end of a shaft 1, having a truncated flat face (unreferenced above 59). Scheublein, Jr. et al. '933 do not discuss the reason for truncating the ball to have a truncated flat face. It appears that a truncated flat face provides a gap for storing more lubricant than a ball without a truncated flat face. Therefore, as taught by Mizusawa et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the truncated flat face on the ball, at the highest point opposite an

attachment of the shaft to provide a gap for storing more lubricant than a ball without a truncated flat face.

Maughan teaches in Figure 8 a ball joint comprising a fastening means 260, 262 for fastening a retaining member 244 in a housing 208 to stake the retaining member 244 in place (col. 7, lines 61-62). Therefore, as taught by Maughan, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a fastening means for fastening the member in the housing to stake the member in place.

Regarding claim 4, Scheublein, jr et al. '933 disclose the attaching means 95 is external threads on an external surface of the middle portion A14 of the housing 91 (col. 5, lines 53-55).

Response to Arguments

Applicant's arguments filed 8/12/03 have been fully considered but they are not persuasive. Applicant is reminded that claim 4 was not rejected over Mizusawa et al. in view of Edwards in the prior office action.

Regarding claim 1, applicant has argued that the addition of a lubricating port and duct makes the ball joint inoperable specifically because Mizusawa employs a plastic socket and a metallic ring and that adding a lubrication port and duct to the

plastic socket and a retainer is redundant since an interface with the metallic ball with the plastic socket is self-lubricating by virtue of low-friction properties of plastic.

Applicant is reminded that by virtue of the plastic socket and the metallic ball does not necessarily prevent the ball joint to function. Instead, making a modification by combining the references will further reduce friction between a plastic socket and a metal ball. In addition, the examiner would like to point out that Mizusawa et al. attempted the invention with a metal socket as described in a comparison of tests (see col. 9, lines 25-26). Therefore, one of ordinary skill would make the socket from metal and Edward's teaching will suggest to one of ordinary skill in the art of ball-joint to add the lubrication port and duct.

Furthermore applicant has argued that the addition of lubrication to Mizusawa et al. may cause the metallic ring 27 to more easily slide over and disengage from the ball, causing failure of the ball joint. Determining whether the lubrication in the joint makes the metallic ring 27 to more easily slide over and disengage from the ball is impossible. A careful review of the metallic ring in Figure 6 suggests that the metallic ring is unable to slide over in any direction since the metallic ring is held in place between the socket 6 and the retainer 20 regardless of lubrication or no lubrication. Therefore, the ball joint would not be compromised when modified.

Applicant has also argued that there is no suggestion within either reference to combine the lubrication port of Edwards in the plastic socket disclosed by Mizusawa et

Art Unit: 3679

al. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, making a ball joint assembly to include a lubrication port and duct is knowledge generally available to one of ordinary skill in the art making ball joint assemblies.

Moreover, applicant has argued the ball joint assembly of Mizusawa et al. is intended for use in automobile door joints. Applicant is reminded that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Applicant has argued that the invention employs lubricant not only to reduce friction within the assembly, but also to apply pressure to the ball to maintain the

position of the ball within the assembly. Applicant is reminded that claim 1 does not positively claim the lubricant but rather the invention intends to use the lubricant to pass through the duct. Furthermore, there is not indication in the claim whether the lubricant reduces friction and also applies pressure to the ball. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant has argued that Scheublein Jr. et al. fails to disclose the housing being internally conformed at the lower end to seat the ball despite that applicant agrees that Scheublein Jr. et al. disclose the housing being internally conformed at the lower end. Applicant argues that the lower end of the housing is internally conformed to receive a sintered bearing member 96 and bearing race 97 as the internal conformation is distant from the ball 100. This is not persuasive since the bearing member 96, the bearing race 97, and the head member 100 in unison make a ball. Therefore, the lower end of the housing is internally conformed to seat the ball made up of bearing member 96, the bearing race 97, and the head member 100.

Applicant has argued that placing a truncated flat face on the ball would render the invention inoperable since the truncated flat face would not cooperate with adjustment element 103. That would be true if the flat face were to be designed to cover the entire upper curvature of the element 100I. However, one skilled in the art would know best not to make the flat face to entirely cover the curvature of the ball. As

position of the ball within the assembly. Applicant is reminded that claim 1 does not positively claim the lubricant but rather the invention intends to use the lubricant to pass through the duct. Furthermore, there is not indication in the claim whether the lubricant reduces friction and also applies pressure to the ball. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant has argued that Scheublein Jr. et al. fails to disclose the housing being internally conformed at the lower end to seat the ball despite that applicant agrees that Scheublein Jr. et al. disclose the housing being internally conformed at the lower end. Applicant argues that the lower end of the housing is internally conformed to receive a sintered bearing member 96 and bearing race 97 as the internal conformation is distant from the ball 100. This is not persuasive since the bearing member 96, the bearing race 97, and the head member 100 in unison make a ball. Therefore, the lower end of the housing is internally conformed to seat the ball made up of bearing member 96, the bearing race 97, and the head member 100.

Applicant has argued that placing a truncated flat face on the ball would render the invention inoperable since the truncated flat face would not cooperate with adjustment element 103. That would be true if the flat face were to be designed to cover the entire upper curvature of the element 100. However, one skilled in the art would know best not to make the flat face to entirely cover the curvature of the ball. As

matter of showing this modification, applicant is urged to view Figure 4 of the primary reference to Scheublein, Jr. et al. 2,954,993. Scheublein, Jr. et al. have made a flat face (unreferenced) to be small and be enclosed by the retaining element 57.


Therefore, one of ordinary skill in the art would make the truncated flat face small to be enclosed by the retaining element 103 in Fig. 9.

Furthermore, applicant has argued that the employment of fastening means for fastening a member within a housing is not obvious by either Scheublein Jr. et al. alone and in view of Scheublein Jr. et al. as taught by Mizusawa. Applicant is reminded that rejected claims are not based Scheublein Jr. et al. alone but a combination of references. In response to the combination of references not being obvious, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 703-308-8606. The examiner can normally be reached from 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynne H Browne can be reached on 703-308-1159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9326 for regular communications and 703-872-9327 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-2168.


Lynne H. Browne
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E.G.

October 9, 2003

Anthony Knight
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